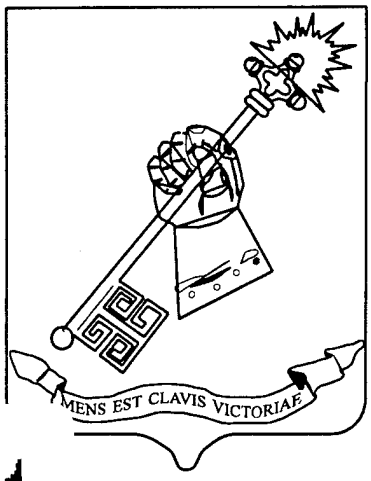
# CAVALRY OPERATIONS IN SUPPORT OF THE FORCE XXI COMMANDER

A Monograph
By
Major Victor Holman
Armor



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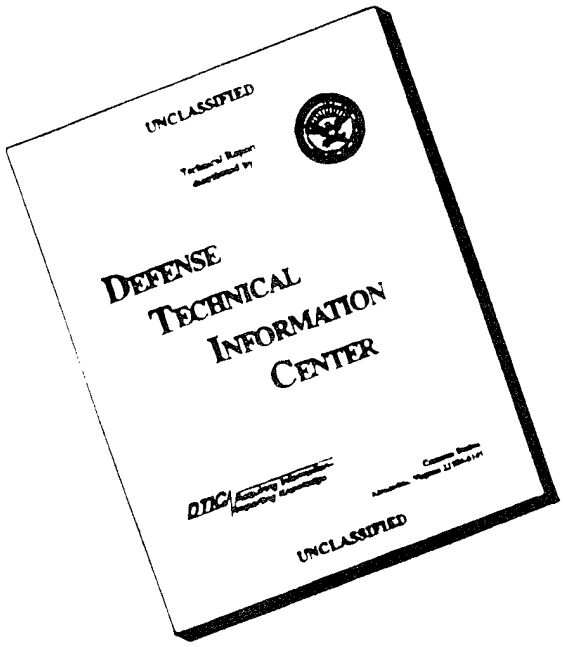


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ABSTRACT

CAVALRY OPERATIONS IN SUPPORT OF THE FORCE XXI COMMANDER by MAJ victor Holman, 53 pages.

This study examines the structure and employment of the light cavalry regiment in the Force XXI environment. The development of the cavalry regiment is examined through an historical review of the Fourth Cavalry Group prior to and during World War II. Next, the impacts of the Army of Excellence Study and the continued proven relevance of the cavalry regiment are explored.

Christopher Bellamy and Richard Simpkin demonstrate future global regions of conflict and possible techniques for employing combat forces.

The XM8, Armored Gun System (AGS) is explored as a candidate for the primary weapon system in the light cavalry regiment. The air-deployable AGS and the light cavalry regiment possess several advantages over the M1 equipped regiment. Former commander of the Second ACR, LTG L.D. Holder iterates his views about the development and employment of the light cavalry regiment.

This study concludes with several recommendations in favor of developing the light cavalry regiment. Given that the U.S. Army is now a CONUS-based force, the light cavalry regiment provides the Force XXI commander with a lethal and deployable armored organization that is capable of executing his vision of warfighting.

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# CHAPTER I

## INTRODUCTION

### Historical Evolution

The structure and tactics of American regimental cavalry were largely developed during the Second World War. The Army decided in 1940 that each corps would receive a regiment of cavalry.[1] Initially, the cavalry regiment was configured to provide reconnaissance and limited security for the corps to which it was assigned. Cavalry operations in World War II conducted by the Fourth Cavalry Group offer an outstanding example of the historical evolution of the cavalry organization. Since World War II the structure, tactics, and missions of the armored cavalry regiment were modified primarily to defeat the former Soviet Union and Warsaw Pact forces along the Intra-German border.

Due to the efforts of Army Chief of Staff, General Douglas MacArthur, the first mechanized cavalry regiment was officially formed in 1933.[2] By 1940 the Fourth and Sixth Cavalry Regiments were changed from pure horse-mounted units to a combination of horse and mechanized reconnaissance regiments.[3] This new organization of one horse and one mechanized squadron allowed the cavalry to

take advantage of greatly increased mobility on the battlefield. The horse squadron possessed excellent cross-country mobility, while the mechanized squadron had superior road speed.

The organization of each squadron was unique. The horse squadron had three rifle troops, which consisted of three rifle platoons and one light machine gun platoon. The initial mechanized squadron had two reconnaissance troops consisting of scout cars and motorcycles. Each scout car had a .30 caliber machine gun and a .50 caliber machine gun.[4] The mechanized squadron tested and discarded several vehicle combinations, which included motorcycles, jeeps, and armored cars.

There was much discussion between 1932 and 1945 over whether or not to retain horses in the cavalry or to completely mechanize the cavalry force as the Germans had done earlier in the war. Although many leaders, like Major General John K. Herr, the last Chief of Cavalry, fought increased mechanization, Lieutenant General Lesley J. McNair, Commander of Army Ground Forces during 1940, succeeded in expanding the U.S. Army's mechanization program. During the U.S. Army General Headquarters maneuvers of 1941, McNair was convinced that compared to motorized vehicles, horses lacked further utility in cavalry regiments.[5]

In April 1942, the Fourth Cavalry Regiment was reorganized as a fully-mechanized cavalry unit.[6] The Fourth Regiment was now equipped with the M5 light tank mounting a 37mm cannon, the 75mm assault gun mounted on the M5A1 chassis, and the all purpose jeep.[7] Although there would be changes to the Table of Organization and Equipment, by 1942 each squadron had a company of 17 M5 light tanks, 6 75mm assault guns, and 3 reconnaissance troops. Each platoon had a squad of 60mm mortars, a squad of pioneers and three reconnaissance sections. The sections consisted of one M8 armored car and two jeeps. The M8 armored car mounted the 37mm antitank gun, which had a maximum effective range of less than 500 meters.[8]

The newly-equipped Fourth Cavalry gained several advantages with mechanization, including mobility, protection, and lethality. The Fourth now had the ability to execute the doctrinal missions of security and reconnaissance for a mechanized corps. The mechanized cavalry could keep pace more easily with the remainder of the armored forces in World War II. The armored light tanks provided greatly increased protection against small-calibre munitions and artillery shrapnel. Both the light tank and assault gun provided increased lethality never before possessed by the cavalry. Also, the jeep and armored car allowed the

cavalry greater range and mobility. These combat systems were to be used primarily to gain information, while conducting reconnaissance, rather than being used to conduct security missions. The mechanized version of the Fourth Cavalry was also expected to operate at greater ranges than had been possible for the horse-mounted cavalry. The regiment was capable of advancing over 100 miles per day, unopposed, along a 50-mile front.[9]

Despite the fact that regimental cavalry now had jeeps, armored cars, and light tanks, the focus of their missions remained on reconnaissance.[10] The light tank and assault gun allowed the regiment to defeat minor resistance during offensive operations or to provide sufficient firepower during a delaying action. For mechanized forces, Training Circular Number 107 no longer discussed cavalry units conducting the missions of guard or pursuit. This doctrinal belief was expressed and supported in the revised mechanized cavalry reconnaissance manual.[11]

During and subsequent to D-Day, elements of the Fourth Cavalry Group were actively involved in combat operations. The Fourth and Twenty-Fourth Squadrons were attached to several units, including the 82d Airborne and 101st Airborne Divisions, and the 90th Infantry Division.[12]

The Fourth Squadron executed reconnaissance and security missions while it was attached to the VII U.S. Corps. The mission of the cavalry group following the D-Day invasion was to locate and destroy all enemy locations along the eastern side of the Cotentin Peninsula.[13] Elements of both the Fourth and Twenty-Fourth Squadrons were given missions to capture and destroy enemy locations on the Iles St. Marcouf and to provide security to VII Corps headquarters.[14] Bravo Troop, Fourth Cavalry Squadron, was attached to the 82d Airborne Division to provide route reconnaissance and combat patrols during the days following the Normandy invasion.[15] The troop was later assigned to both the 90th Infantry Division and 9th Infantry Division where it again performed reconnaissance and security missions.

The cavalry was also used to cover large sectors. The Twenty-Fourth Squadron conducted an economy-of-force mission when it relieved a regiment of the Fourth Infantry Division along the Quinevile Ridge just north-west of Utah Beach.[16] The squadron also conducted both mounted and dismounted patrols to hold the ridge. Despite possessing the superb mobility of the armored cars, light tanks, and jeeps, the soldiers of the cavalry group usually operated dismounted to achieve an advantage in fighting. The squadron also assisted in securing the division's supply route and used the tank

troop to help capture key towns.

During First Army's Operation COBRA, the Fourth Squadron was assigned the mission of screening the left flank of the First Infantry Division while the Twenty-Fourth squadron conducted reconnaissance for the Second Division.[17] The intent of both squadrons was to locate enemy positions, determine enemy strength, and provide security for the main body. As VII Corps moved across Europe to defeat the Germans, the Fourth Cavalry continued to provide outstanding reconnaissance and security to every unit to which it was attached.

Throughout World War II, the leaders and troopers of the Fourth Cavalry Group demonstrated an ability to adapt to battlefield conditions and achieve success. There were several key lessons learned about the employment of regimental cavalry. To accomplish its mission, the cavalry force requires mobility, firepower, tactical flexibility, and protection. Sufficient mobility allowed the cavalry to keep up with other mechanized forces. The light tank and assault gun provided increased lethality and protection against small arms over the former horse cavalry. Finally, leaders had the foresight and initiative to alter their tactics by conducting reconnaissance and fighting dismounted when required.

## Army of Excellence Study

The Division 86 and the Army of Excellence restructuring during the mid 1980s further changed the structure of the armored cavalry regiment.[18] These changes included centralizing several functions at the corps level, while reducing numerous functions and redundancy at the division level. Some of the major functions that were consolidated at the corps level included air defense, field artillery, and aviation.

Restructuring was conducted for two main reasons. It better supported the AirLand Battle concept that relied on the corps commander to successfully execute the campaign plan. It helped to align the Army's combat requirements and force structure.[19] As the centerpiece of AirLand Battle doctrine, the corps required key assets to help influence the battle, and thereby, ensure the successful execution of the campaign plan.

The tactical implications of these changes were that commanders prepared for operations conducted in a more linear battlefield. The missions, tactics, and equipment of the ACR reflected this philosophy. The primary missions of the regiment were reconnaissance, security, and economy-of-force.[20] Traditionally, the ACR was structured to fight a covering force battle directly in front of the corps. Tactics included causing the premature deployment of enemy first-echelon divisions by

defeating their reconnaissance elements and engaging the first-echelon regiments with direct and indirect weapons systems. Doctrinally, the Active Defense of 1976 and the AirLand Battle of 1982 reinforced this concept.

To accomplish their missions, ACR commanders had three ground squadrons, one aviation squadron, a support squadron, and an assortment of combat support assets. Each ground squadron had three M3 Bradley-equipped cavalry troops, one M1 Abrams tank company, and one M109 howitzer battery. Before 1992, the aviation squadron had two AH64 attack helicopter troops and one UH60 lift company.[21]

The Army of Excellence organization stressed the integration of weapons to maximize firepower and rapid maneuver. In addition, tactical and technical responsibilities were simplified, combined arms operations occurred at the battalion and brigade level, and the integration of AirLand Battle doctrine took place at the division and corps level.

## Proven Need

The Army of Excellence study indicated that the cavalry regiment continues to be a viable organization. AirLand Battle doctrine and the focus on the corps-level organization clearly demonstrated the continued need for the ACR in the structures of the V Corps and VII Corps

which had been deployed in the Federal Republic of Germany since 1945.

Given the lack of world stability and an army based mainly in the Continental United States (CONUS), the need for an even more flexible cavalry regiment exists today. This is particularly critical since the regiment could deploy as part of a corps or joint task force.

The question the U.S. Army must now answer, is how should the future cavalry regiment be organized to meet the demands of a Force XXI Army?

## Relevance

The current significance of evaluating and restructuring the ACR is evident when viewed against the current geopolitical situation. Our current National Security Strategy calls for a military force capable of meeting two nearly simultaneous regional conflicts.[22] In addition, the Army must maintain force-projection, CONUS-based units and be able to take full advantage of all appropriate technological advancements. TRADOC Pamphlet 525-5, Force XXI Operations, discusses the conceptual foundations that are highly applicable to the cavalry regiment. In particular, the battle dynamics of extended battle space, depth and simultaneous attack require ground-based operations to be achieved. The cavalry regiment is equipped and structured to ensure

the success of Force XXI operations.[23] Finally, the issues of cost, deployability, mobility, lethality, and versatility all focus on the necessity to develop the correct type of cavalry regiment as quickly as possible.

Compared to the Army of Excellence, the force design principles for the Force XXI division-size organization are more comprehensive and flexible. The Force XXI organization optimizes information-based operations. Domination of the battle space is expected to be achieved by controlling the tempo of the fight with lethality and survivability while simultaneously mounting, sustaining, and recovering from combat operations. Strategically, units must be capable of rapid deployment. Forces must also be tailorable and able to achieve quick and decisive victory in war and operations other than war.[24]

## CHAPTER II

## REGIMENTAL CAVALRY

### Doctrine

Field manuals (FM) FM 17-95, Cavalry Operations, FM 100-15, Corps Operations, and FM 100-5, Operations, provide current U.S. Army doctrine concerning the organization and employment of cavalry organizations. The cavalry regiment serves to reduce battlefield friction by providing the corps commander with detailed intelligence about the enemy and the terrain.[25] The fundamental roles of cavalry are to perform reconnaissance and to provide security in close operations.[26] This intelligence allows the commander to truly understand and control the critical portion of his battle space.

As an inherently flexible and mobile organizations, cavalry units have historically executed various missions, including close reconnaissance, flank security, counterattack force, mobile reserve, covering retreats, and pursuit of the enemy.[27] The regiment gains flexibility by possessing organic capabilities in all of the battlefield operating systems (BOS): intelligence, maneuver, fire support, mobility and survivability, air

defense, combat service support, and command and control.[28]

The regiment most directly impacts the corps' intelligence and maneuver. The cavalry regiment is one of several intelligence-gathering assets within the corps. The regiment, however does provide advantages in the area of reconnaissance. The regiment can work to overcome enemy deception plans, and it can develop the tactical situation through fire and maneuver. Furthermore, cavalry leaders can verify aerial reconnaissance by assessing key terrain. They can also quickly disseminate information to subordinate commanders.[29]

Field Manual 100-15, Corps Operations, prescribes a role for the cavalry regiment in both the close battle and the deep battle.[30] In the close battle, the regiment conducts reconnaissance and security missions. In the defense, besides screen, guard, and cover, the cavalry regiment, usually augmented with infantry, can also conduct an effective economy-of-force mission.[31] Furthermore, when executing a covering force mission, the regiment serves to shape the battlefield for the corps commander. When reinforced, the regiment can gain excellent results as a deep strike force used to unbalance the enemy.

Successful reconnaissance normally precedes operations at all levels.[32] The mobility and combined arms organization make the regiment perfect for corps economy-of-force needs. The corps commander can gain freedom of action by correctly employing the cavalry regiment.

## Future Doctrine

The next step in determining the Force XXI cavalry organization is to determine the future doctrinal framework. This framework will include the environment of conflict, techniques of employment, and the required equipment.

The conceptual document, Force XXI Operations has had the most effect in helping the Army focus on change. This document reinforces the idea that the Army is no longer threat-based and focused on the Soviet Union; the new focus is on worldwide interests. These interests may collide with the ideas of other nations and result in the deployment of u.s. forces. The possible threat spectrum facing the U.S. and her allies ranges from simple light infantry units to complex technology-based armies.

## Force Projection

Besides confronting a variety of threat forces, the cavalry regiment must also contend with force-projection

issues. As a CONUS-based force, military leaders must address and answer how armored forces will deploy into a given theater.

Without forward-deployed forces, strategic mobility assumes greater importance for the U.S. and her allies. It is a fact that the Army faces a shortfall of strategic sealift and airlift assets.[33] Cavalry forces will have to take advantage of lighter, yet lethal weapons systems. This will be particularly important for regiments that deploy into theaters early.

The light cavalry organization must develop tactics, techniques, and procedures to support deployments and subsequent operations in unfamiliar theaters. Having the cavalry regiment deploy early to aid the commander by securing lodgement sites and passing accurate and timely information will be critical.[34] As part of a force-projection army, the cavalry must make every effort to obtain detailed information about the terrain, transportation net, ports of debarkation, and friendly, enemy, and neutral forces.[35] In addition, the reconnaissance triad of technical assets, such as the Joint Surveillance and Target Attack Radar System (JSTARS), air assets, and ground assets will have to operate in concert to provide accurate information about the enemy situation.[36] A typical scenario might first involve the use of

technical assets to prescan a particular section of terrain. The technical systems could help to confirm or deny the existence of enemy forces. Next, air or ground systems could then be used to verify or destroy those enemy forces. This type of coordinated effort, would result in a more efficient and effective use of limited air and ground systems.

## A Technique

The goal of future commanders may involve the complete and rapid defeat of an enemy force. The corps or force commander must seek to maximize the strengths of the regiment. One way to accomplish this task is to simultaneously attack the enemy throughout the depth of his formation.[37] Author, and retired British armor officer, Richard Simpkin suggested a "strike deep" philosophy as a way for NATO forces to defeat WARSAW Pact nations on the plains of central Europe.[38] With some minor modifications, corps commanders could use this same technique against future threat forces. While Simpkin's "anvil of fire" is being established, the cavalry regiment could be used as the operational-level or tactical-level "hammer" to strike deep into the enemy's rear area or at another critical place on the battlefield. This could only be achieved after a thorough intelligence preparation of the battlefield and

accomplishing a correlation of forces. The cavalry regiment could do this through the use of its mobility, survivability, and lethality.

Aside from being trained and equipped to fight, the other major concerns for the U.S. Army are where the next major conflict will occur and the type of warfare U.S. soldiers will face. Military writer Christopher Bellamy offers several possible suggestions. He states that although Europe is important to both eastern and western powers, major conflicts there are unlikely. However, American involvement and large-scale conventional warfare are both very likely in the Middle East, along the Russian-China border, and in Southeast Asia.[39] Also, minor protracted wars in Africa and Central and South America might also occur. The potential for significant conflict at crucial points around the globe means that the U.S. must be prepared to deploy lethal systems quickly.

Bellamy discusses the importance of maintaining an advantage in technology as it pertains to weapons systems. Although most current weapons systems will still be in use by the year 2010, small improvements in increased weapons ranges and armored mobility will pay huge dividends. Lightly armored vehicles, in particular are easier to deploy and repair and require less-expensive maintenance than heavier systems. However,

although lighter armored vehicles forfeit some degree of protection, their reliability is not necessarily degraded. Most important, these platforms can still carry extremely lethal gun systems.[40]

For additional methods of employing the cavalry regiment in the future, commanders may consider Craig Delbruck and his discussion on strategy. Since it is highly unlikely that the U.S. Army will face a symmetrical force in the next conflict, commanders may have to use different techniques of employing forces to achieve success. For the United States, a symmetrical force would be one that compares in equipment, techniques, and intellectual understanding of warfare. Delbruck identifies two strategies, which he refers to as Niederwerfungsstrategie (strategy of annihilation) and Ermattungsstrategie (strategy of exhaustion).[41] While the decisive battle is the sole aim of the strategy of annihilation, the twin poles of battle and maneuver are employed in the strategy of exhaustion.[42]

Through a strategy of exhaustion the corps commander can move between the poles of battle and maneuver to achieve his objectives and control the tempo of the battle. By aggressively combining the abilities of heavier conventional forces and the advantages of mobility, lethality, and versatility inherent to the light cavalry regiment, the corps commander may be able

to execute a strategy of exhaustion against an enemy force. By employing conventional units to force an engagement with the enemy in order to gain maneuver space, the cavalry organization would maximize the advantage of mobility to gain battle against the enemy. This combination of maneuvers may serve to prevent the enemy from regaining his balance or controlling the tempo of the battle.

## Combat Power

Grenada, Panama, Kuwait, Somalia, and Haiti all had one thing in common--the need for an organization equipped with light, rapidly deployable (yet lethal) armored vehicles. The M551 Sheridan and M966 HMMWV (TOW) were able to provide the force commander, squadron and regimental cavalry commanders with a small increase in deployability, mobility, lethality, and protection. However, the threat situation requires a quantum leap in how all of these areas are to be considered and employed in the light armored vehicle of the future for two reasons. First, the possibility of deploying into hostile theaters and unprepared lodgements will be more likely. Second, the proliferation of light and crew-served weapons will demand that U.S. forces deploy with armored vehicles for protection and lethality. While the cavalry regiments stationed in Europe focused on

vehicles designed around protection, firepower, and tactical mobility, the light regiment must now consider the issue of strategic deployment.

As a member of a force-projection army, the motto "Always Ready" has taken on increased significance for the Second Cavalry Regiment. Like the airborne armored battalion of the 82d Airborne Division, the regimental commander of a contingency force has to consider not only overmatching threat weapons systems, but the ability to strategically and rapidly reposition combat power. The U.S. Army specifically addresses the importance of strategic mobility as part of the institutional redesign of the Army in DA Pamphlet 100-XX, Institutional Army Redesign.[43] Forces that are deployed early must be both lethal and survivable.

In the same manner that the M1 Abrams and M2 Bradley were designed to operate and survive against WARSAW Pact nations or other armored threats, the replacement for the Sheridan and HMMWV TOW must be air-deployable, survivable, and able to defeat a variety of possible threat forces around the world. These features appear to be available in the XM8, Armored Gun System (AGS). Currently, the XM8, AGS, is undergoing extensive testing before fielding. The XM8 fully supports the Army's requirement for strategically deployable armor.

A major strength of the XM8 is that it can be placed into a theater by four different aircraft.[44] In particular, both the C5 and C17 aircraft can deliver significant numbers of the XM8 to an area of operations in a relatively short time. The following matrix compares aircraft delivery capabilities.

Number of XM8 by Offload System

| Aircraft | Roll on/Roll off | Air Drop |
|---|---|---|
| C5 | 5 | 0 |
| C17 | 3 | 1 |
| C141 | 2 | 0 |
| C130 | 1 | 1 |

In terms of lethality, the AGS fires 105mm main gun ammunition. The weapon system consists of an autoloader (12 rounds per minute), digital fire control system, stabilization, laser range finder, and thermal sight. In addition, the commander's station can mount the M2 or M240 machine gun or the Mark 19 grenade launcher. The XM8 carries a total of thirty 105mm rounds. The XM8 is also a highly mobile vehicle. The XM8 can travel more than 50 miles per hour and surmount obstacles over 32 inches tall. By comparison, the XM8 has superior sprint speed and equivalent road and cross-country speed to the M1 tank. Furthermore, the XM8 is three and one half

feet narrower and two and one half feet shorter than the M1A2 tank thereby providing a significantly smaller target profile.[45] The XM8 is also nearly a foot shorter than the M1.

Armored vehicles exist to ensure the survivability of the crew to permit them to bring fires to bear upon the enemy. Designers of the XM8 have allowed senior leaders to make a threat assessment of the area of operations and then choose the correct level of vehicle armor protection for each contingency. Level one XM8 protection consists of a Kevlar liner, ballistic aluminum, ceramic tiles, and titanium armor. Level two protection employs bolt-on metal plates that are applied by the crew in about three hours. Modular passive armor boxes provide level three protection for the XM8 and are also applied by the crew in about three hours.[46] The XM8, AGS, appears to finally give the light cavalry regiment access to an armored vehicle that is truly deployable, lethal, mobile, and survivable. The advantages of this vehicle will allow the regimental cavalry to accomplish its doctrinal mission in the new security environment.

## Second Cavalry Regiment

The mission of the light cavalry regiment currently rests with the Second Cavalry Regiment. Before redeploying to Fort Polk, Louisiana, the regiment

enjoyed an exciting history as a forward-deployed unit. The Second Armored Cavalry was formed and designated in November 1948. For nearly 42 years, the Second Armored Cavalry Regiment (ACR) helped to maintain democracy in West Germany by guarding the border between NATO and WARSAW Pact nations. Then in 1990 the Second ACR, along with much of the American military and many of her allies, deployed into the Middle East to confront and defeat the aggressive actions of the Iraqi leader, Saddam Hussein, as part of Operation DESERT SHIELD/ DESERT STORM in the defense of Saudi Arabia and Kuwait.

While deployed in Europe and the Middle East, the Second ACR was organized and equipped to defeat a nearly symmetrical armored opponent. It consisted of three ground squadrons, one aviation squadron, and one support squadron. The primary equipment of the regiment were 123 M1 tanks, 125 M3 cavalry fighting vehicles, 24 M109 howitzers, 18 M121 mortars, and 26 AH64 attack helicopters.

Although quite lethal, this heavy force was not concerned with deploying into contingency locations. However, if the armored cavalry regiment were deployed, the majority of the equipment would reach the theater by sealift. In addition, even at 60 tons and 24 tons, respectively, the M1 and M3 were more agile than their

M60 and M113 predecessors. However, the focus of the M1 was the highly accurate 120mm cannon while the M3 carried a 25mm chain gun and TOW missile launcher.

The weapons systems and tactics traditionally employed by the Second ACR supported its ability to execute a covering force security mission for the corps commander. The covering force mission, whether offensive or defensive, is designed to gain intelligence on the enemy, deny the enemy information, destroy or repel his reconnaissance force, develop the situation, defeat or fix enemy units and exploit opportunities.[47] Under these conditions the corps commander would attempt to seize the initiative hoping to defeat the enemy's reconnaissance forces and first-echelon regiments. This would cause the enemy's second-echelon regiments and divisions to deploy prematurely which would allow friendly divisions in the main battle area to effect the enemy's destruction.

As an aside, the tanks, cavalry vehicles, helicopters, and artillery organic to the regiment served two purposes. First, the ACR could conduct combined arms operations independent of the corps and thereby provide the corps commander flexibility. Second, the enemy could not readily determine whether or

not it had encountered only reconnaissance elements or main battle area units.

## Light Regimental Cavalry

After the defeat of the Iraqi Army in 1991, the Second Armored Cavalry Regiment, along with much of the U.S. Army, redeployed to CONUS--not back into the Federal Republic of Germany. The security threat had shifted away from the Soviet Union and the need to maintain a large U.S. force in Europe. American national security began to focus on a strategy of engagement and enlargement.[48] Political and military leaders in the U.S. had to balance the need to maintain a trained and ready military with the need to enhance security, promote prosperity at home, and promote democracy abroad.[49] The administration also addressed the likelihood and importance of being prepared to deal with operations other than war (OOTW).[50] This shift in mission focus has resulted in major equipment changes for the regiment.

The organizational design of the light regiment centered on four major points. First, the organization had to possess robustness with all of the combat, combat support, and combat service support elements. Second, the regiment had to be closely modeled after the existing heavy armored cavalry regiment. Third, the light regiment had to be deployable on short notice.

Fourth, the interim design had to minimize turbulence until an armored gun system was completely fielded.[51] Considering these criteria, it is clear that the light cavalry regiment was designed to be a deployable, lethal, mobile, and versatile organization.

The Second ACR(L) no longer required the M1 tank or M3 cavalry fighting vehicle. These heavier systems were exchanged for the M966 HMMWV TOW and the M1025 HMMWV scout vehicles. The regiment also retained the OH58D Kiowa Warrior helicopter, M121 mortar, and the M109A6(T) howitzer. When required, these additional systems help the cavalry operate independently as a combined-arms team in a range of possible contingencies from war to operations other than war. United States military forces were deployed to OOTW missions from 1991 to 1995 in Iraqi, Somalia, Rwanda, Bosnia, and Haiti. The Second Regiment (Light) participated in these operations. In Haiti, the regiment relied on the HMMWV during its deployment as part of Operation RESTORE DEMOCRACY. The regiment responded quickly and was commended for the accomplishment of its OOTW mission. Because of the newer and lighter configuration, the regiment was able to respond rapidly to the situation in Haiti.

A typical contingency force squadron requires only 74 C141 aircraft to deploy into an area of operations.

This squadron consists of 694 personnel, 153 HMMWVs with 28 trailers, 54 5-Ton trucks with trailers, 27 pallets of equipment, and 8 engineer vehicles.[52] Former Army Chief of Staff, General Gordon R. Sullivan, stated that the light cavalry regiment was to be a combat multiplier in a strategic army, and that such a force was to be deployable, versatile, and lethal.[53]

Although the HMMWV proved to be successful in Haiti, another scenario predicts that deploying units will require increased lethality and crew protection. The need (for rapidly deployable armor) may have been realized in Somalia from June to October of 1993 when several United Nations soldiers, including U.S. Army Rangers, were killed. Had armored vehicles been available to reinforce this operation, the outcome may have been different. Unlike trucks or armored HMMWVs, light tanks supported by infantry can move more freely in potentially hostile or threatening situations.

As a contingency force, the Second Cavalry Regiment (Light), aside from being more deployable and possessing greater mobility, must be able to execute the traditional cavalry missions of reconnaissance and security. In addition to route, zone, and area reconnaissance missions, the regiment must be able to conduct force-oriented reconnaissance.[54] Force-oriented

reconnaissance not only provides information, but is the precursor to maneuver and fire.[55] To accomplish this highly dynamic mission, the cavalry requires sufficient firepower, mobility, and protection in its primary combat vehicle. While security functions are inherent to all units, the cavalry regiment's security missions allow the force commander freedom of action by performing overarching security missions. These missions include screen, guard, and cover. The final mission of area security may involve a combination of area reconnaissance, rear area operations, securing convoys, and securing critical points.[56]

A Commander's Thoughts

Lieutenant General L.D. Holder, a former commander of the Second Armored Cavalry Regiment (July 1989 to June 1991), had the distinction of commanding the regiment during the Gulf War. Subsequently LTG Holder became the commander of the U.S. Army Combined Arms Center and Fort Leavenworth. During an interview with the author, LTG Holder shared some of his views on the development of the light cavalry regiment.[57] He stated that the versatility of the cavalry regiment is a significant benefit to the corps or force commander. On one hand, the firepower and maneuverability of the heavy regiment provided the VII Corps commander with an organization that was capable of reconnaissance and

independent offensive action. He said that the light armored regiment should be able to furnish the force commander with sufficient lethality. This capability will be particularly important in contingency scenarios where the threat is unknown and the terrain is severely restrictive.

Holder cautiously described the light regiment's use of the HMMWV for combat operations. He said that although the vehicle may be appropriate for OOTW missions, armored vehicles should be employed without hesitation when intense combat is expected. Furthermore, he continued, although the HMMWV TOW is an excellent tank-killing system, the rate of fire is too slow to be employed alone on the battlefield; therefore, a rapid-firing 105mm cannon is essential for the light regiment.

Finally, LTG Holder reinforced the idea that the basic organization of the light regiment, with some minor modifications, should generally reflect that of the heavy regiment. He iterated that the support squadron and most of the combat support and service support elements should be retained because of their value to the regiment. However, he felt the current security environment dictates that some elements such as the air defense artillery battery, the chemical company, and the engineer company could be reduced. Also, Holder

expressed his belief that the regiment should have access to the information provided by unmanned aerial vehicles. Regiment commanders could use this information to refine their focus and missions.

## CHAPTER III

## ANALYSIS

### Assessment

As illustrated by the Fourth Cavalry, there has been constant debate about how cavalry units should be organized, equipped, and employed. Before deploying to Europe for the Second World War, the Fourth Cavalry Group used horses as their primary method of transportation. Although highly mobile, the cavalryman had to dismount to fight. Neither the rider nor the horse had any protection against small arms or artillery fragments. On battlefields of World War II, the speed of motorized units and the deadliness of machine guns dictated the need for significant changes in cavalry organizations. The cavalry had to abandon the horse as a mode of transportation to keep up with the tempo of the battle.

The Fourth Cavalry, like much of the U.S. Army, benefited from mechanization. First, crew protection was greatly enhanced with the addition of armor. Small-arms rounds and artillery shrapnel no longer prevented movement on the battlefield. Second, mobility improved because the regiment could maintain its pace with the

other armored and mechanized units while it continued to provide reconnaissance and security for the main body or conducted economy-of-force missions. Third, with a highly lethal main gun mounted on a light tank, the cavalry group possessed greater firepower than ever before.

The Fourth Cavalry Group of World War II was the legacy inherited by the armored cavalry regiments later stationed in West Germany. Until 1990 much of the organization, tactics, and equipment of the U.S. armored cavalry regiments in Europe were developed to counter Soviet Union and Warsaw Pact armor. Currently, some leaders are arguing for a heavy and lethal regiment that provides more security, while others stress mobility and reconnaissance.

For the United States, the M1 Abrams' main battle tank, M3 Bradley Fighting Vehicle, M109 howitzer, AH64 helicopters, and associated support systems made up the heart of the U.S. Army and the Second Armored Cavalry Regiment. This significantly heavier and more lethal organization was developed specifically to defeat reconnaissance elements and first-echelon regiments of Soviet Union and Warsaw Pact armies.

## Criteria Comparisons

The need for increased deployability in the cavalry regiment led to an alternative design -- one which simultaneously sought to optimize deployability, lethality, tactical mobility, and protection. The design criteria for the heavy regiment is significantly different from that of the light regiment. Given the threat environment in the European scenario, the Army created a heavy ACR that was lethal, survivable, and mobile. This is best reflected in the primary weapon system, the M1 tank. In creating the light regiment, the Army had to consider the issue of deployment more than ever. The light regiment is faced with the very real possibility of being deployed to nearly any point on the globe. The light regiment's design criteria are lethality, deployability, mobility, and survivability.[58] The deployability of the interim HMMWV or XM8 clearly reveals this priority.

### Lethality

The heavy ACR stressed lethality. This meant that the M1 tank eventually had to be upgraded from a 105mm cannon to a 120mm cannon. This product-improvement helped NATO forces plan to defeat T72 and T80 Soviet tanks then deployed in Europe. In addition, the M3 cavalry fighting vehicle was equipped with a TOW missile launcher also capable of defeating WARSAW-Pact tanks.

The 25mm chain gun on the M3 was designed to destroy the lightly armored vehicles that accompanied Soviet battle formations. The ACR also used the AH64 helicopter as a tank-killing system. Although the aircraft themselves are highly mobile, the associated aviation logistics and maintenance organization are significant.

If equipped with the armored gun system, the light regiment will possess a substantial amount of lethality compared to the older, heavy ACR. Although the light regiment is less lethal than the heavy regiment, it will still be able to adequately deter or defeat nearly any contingency threat force in the near future. The 105mm cannon is capable of defeating any threat armored vehicles it may encounter in contingency environments. Rather than receiving the more advanced AH64 helicopter, the regimental aviation squadron is equipped with the highly capable OH58D Kiowa Warrior attack helicopter. The Kiowa Warrior does have the ability to adequately defend itself or attack infantry and lightly armored vehicles it might encounter in a contingency environment. The attack version of the OH58D can be equipped with a 25mm chain gun, 2.75-inch rockets, Hellfire missiles, or Stinger missiles.

## Deployability

While the light regiment possesses less firepower than the heavy regiment, it gains a major advantage in strategic deployability. The heavy regiment would require 500 C-141 sorties, plus 314 C-5 sorties to be deployed into a theater of operations.[59] The light regiment would require significantly fewer aircraft for deployment. By comparison, the light regiment would need fewer than 300 C-141 sorties to be positioned into a contingency scenario.[60]

## Mobility

The ability to maneuver quickly has always been a hallmark of cavalry units. The Second ACR stationed along the Intra-German border achieved excellent mobility with the AH64 helicopter, M3 cavalry fighting vehicle, and M1 tank. The M3 and M1 are capable of speeds up to 50 miles per hour.

It is imperative that the regiment be able to move faster than the unit which it is supporting, arriving quickly at a given location for reconnaissance or to orient itself in a new direction based on threat actions. Speed and maneuverability also allow the cavalry to achieve an advantage over the threat by increasing the mobility differential.

The XM8 armored gun system will provide the cavalry regiment with the ability to maneuver quickly over roads

and rough terrain. The XM8 can travel over 50 miles per hour, achieve over 2 miles per gallon of fuel, and ford 52 inches of water. The XM8 can also overcome an 84-inch trench, a 32-inch obstacle, and produce only 8.7 pounds of pressure per square inch.[61] These statistics translate into combat success for the force commander because of the regiment's excellent mobility.

## Survivability

Survivability for the cavalry regiment is achieved through its robust organization and armor protection. The need to survive an attack and operate independent of the corps ensures that the heavy ACR is a potent organization. This drove the requirement for three ground squadrons, one aviation squadron, a support squadron, and other organic combat multipliers such as an air defense artillery battery, a field artillery battery, and an engineer company.

The organization of the light regiment closely mirrors the heavy regiment. However, by selectively reducing some combat multipliers, the regiment has increased its ability to deploy. General Sullivan realized that the organization of the light regiment needed to remain sufficiently robust for contingency missions.

The organization of the light regiment has undergone minor force structure changes. It has

retained but reduced engineer and chemical company capabilities. The engineer company no longer possesses AVLBs, CEVs or ACEs. Also, the chemical company no longer has a smoke platoon.

## Support

Another area of tremendous difference between the heavy regiment and the light regiment are support vehicles. The heavy regiment is equipped with 49 5-ton tractors, 39 5-ton trucks, 6 HETs, and 22 5,000-gallon tankers.

Conversely, the light regiment requires only 65 5-ton trucks, and 15 5,000-gallon tankers. In addition, the volume and weight of repair parts is greatly reduced for the light regiment. This results in fewer transportation requirements and less-expensive repair costs, as previously mentioned.

## Protection

Finally, the issue of force protection is always foremost in the minds of military leaders. The 70-ton M1 was applauded for superior crew survivability and its ability to withstand a direct hit from another tank. The XM8 allows the corps or joint task force commander and his staff to conduct a threat analysis and determine the correct armor-protection level for the vehicles before deployment. They can then apply additional armor to the XM8 before deployment, or it can be shipped into

the theater later should the need arise. These incremental protection levels afford leaders greater flexibility than ever before when employing the cavalry regiment.

Although the light armored regiment lacks all of the lethality and protection of the heavy regiment, it appears to be the correct regiment for the current security environment. The light regiment possesses the necessary blend of deployability, lethality, mobility and protection required of a strategic unit.

## CHAPTER IV

## CONCLUSION

The purpose of this paper was to determine if the cavalry regiment was still sufficiently organized and equipped to accomplish its assigned missions. Given the information that was reviewed, the answer is yes.

The Second Cavalry Regiment(Light) has already adjusted the organizational vision of the regiment to meet the needs of the Force XXI commander. The regiment's revised mission essential task list (METL) reflects the realities of the new global security environment.[62] Given its current capabilities, the light regiment must focus on six essential tasks:

(1) Reposition combat power through a well-executed deployment from CONUS to the area of operations.

(2) Be prepared to expand the lodgement area for follow-on units.

(3) Conduct detailed reconnaissance.

(4) Conduct security operations.

(5) Participate in joint, combined, and multinational operations.

(6) Sustain the force.

All of the regiment's essential tasks help facilitate the corps' or force commander's operations.[63] By providing timely and accurate information, the force

commander can set the conditions for decisive combat operations. The regiment also provides added security for the main body, and it can help refine unclear situations. If necessary, the regiment can provide the force commander greater flexibility, by conducting economy-of-force missions, thus allowing him to reposition other forces into more critical areas.

This study began with the examination of the legacy of the modern or mechanized cavalry group that began in World War II. The Fourth Cavalry Group was chosen as the historical example because it clearly demonstrates the development of armored cavalry. The inadequacy of the horse cavalry on the deadly and fast-paced battlefield is quite clear. Although highly reliable and mobile, the horse could not provide protection for the rider or itself. In addition, the horse could not keep pace with the remainder of the mechanized and motorized army.

The mechanized battlefield required more of everyone, especially the cavalry. During World War II, besides providing timely and accurate information about the enemy and terrain, the cavalry had to help destroy the German Army through its firepower. This additional mission led to the cavalry regiment becoming an increasingly lethal organization.

The requirement for more lethal cavalry laid the ground work for the armored cavalry regiments that deployed to West Germany after World War II. Those regiments were expected to report the enemy's locations and help reduce enemy forces. The traditional covering force mission was the opening act for the corps commander. The corps relied on the regiment to set the conditions for a successful engagement in the main battle area.

The regiment was equipped and organized to conduct a robust covering-force battle. The Abrams, Bradleys, Apaches, howitzers, and other systems were designed to defeat Soviet reconnaissance elements and first-echelon regiments through the superior strength of the combined-arms team. This allowed U.S. corps to enter the main battle with greatly improved combat ratios since the Soviet Union possessed a greater number of combat systems.

After the dissolution of the Soviet Union and the reunification of Germany, many of the NATO forces that were deployed in West Germany returned to their native countries. The shift in the security environment and the redeployment to CONUS further indicated a need to lighten certain units, such as the cavalry, in order to enhance their deployability in response to contingency situations. The Second ACR was one of these units. The

regiment exchanged its main battle systems for the smaller and lighter HMMWVs. With these vehicles, the regiment successfully participated in peacekeeping operations such as Haiti. However, given the proliferation of weapons systems, the HMMWV can only be considered an interim step before the light cavalry regiment receives a truly light armored combat vehicle.

If properly equipped, the doctrinal use and employment of regimental cavalry for reconnaissance and security missions should not be altered in order to maximize its capabilities for the Force XXI commander. The mixture of robust ground and air systems in the cavalry regiment means that the force commander has the ability to quickly deploy a habitually organized combined arms force that can overmatch potential threats, expand lodgements, and begin to gather critical detailed reconnaissance.

## CHAPTER V

## RECOMMENDATIONS

To help achieve the Force XXI concept of combat operations, the light cavalry regiment cannot rely only on the M1 tank or the HMMWV as its primary weapons systems. While both systems have inherent advantages, they also have significant disadvantages. Neither systems is able to provide the necessary blend of rapidly deployable firepower the Force XXI commander will require.

In response to the research and findings in this paper concerning the cavalry regiment, the following recommendations are made:

(1) The Army should continue to organize and develop a light cavalry regiment.

(2) The organization of the light regiment should be modeled after the heavy regiment.

(3) Various combat support and combat service support elements in the regiment should be altered to match the threat environment. (Reduced combat support and combat service support elements will greatly

decrease the number of airframes required to move the regiment into a theater.)

(4) The Army should pursue the development and fielding of a light tank system for the regiment (such as the XM8, Armored Gun System).

(5) When appropriate, contracts with other countries should be arranged to reduce production costs of a new vehicle.

(6) Education, training, doctrinal tactics, techniques, and procedures should be developed to maximize the employment of the light regiment.

Following these recommendations could result in the development of a light, yet lethal, cavalry regiment capable of Force XXI operations. To dominate future combat environments, the U.S. Army must decide to commit resources to build, train, and equip a force that can truly execute combat operations based on the Force XXI concept.

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